



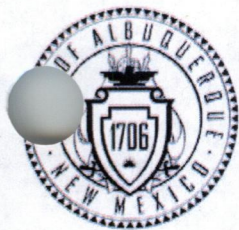
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Kirtland Air Force Base

20.11.41 NMAC Construction Permit Application
Soil Vapor Extraction (SVE) Unit
Site 58 PL-567
Manzano Road

377 MSG/CE Environmental
Kirtland AFB, New Mexico

City of Albuquerque



Albuquerque Environmental Health Department - Air Quality Program

Please mail this application to **P.O. Box 1293, Albuquerque, NM 87103**

or hand deliver between 8:00am - 5:00pm Monday - Friday to:

3rd Floor, Suite 3023 - One Civic Plaza NW, Albuquerque, New Mexico 87103

(505) 768 - 1972 aqd@cabq.gov (505) 768 - 1977 (Fax)



**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

Clearly handwritten or type

Corporate Information

Submittal Date: ____/____/2017

1. Company Name U.S. Air Force – Kirtland Air Force Base
2. Street Address 377 MSG/CEIE, 2050 Wyoming Blvd SE Suite A-116b Zip 87117-5270
3. Company City Kirtland AFB 4. Company State NM 5. Company Phone (505)853-1588 6. Company Fax (505) 853-6970
7. Company Mailing Address: same as above Zip same as above
8. Company Contact and Title Ms. Melissa Clark, Chief, Environmental Management 9. Phone (505) 853-1588
10. E-mail melissa.clark.8@us.af.mil

Stationary Source (Facility) Information: **[Provide a plot plan (legal description/drawing of facility property) with overlay sketch of facility processes; Location of emission points; Pollutant type and distances to property boundaries]**

1. Facility Name Soil Vapor Extraction (SVE) System Site 58 PL-567 2. Street Address Southern Loop of the interior perimeter of Manzano Road
3. City Kirtland AFB 4. State NM 5. Facility Phone (505)853-1588 6. Facility Fax N/A
7. Facility Mailing Address (Local) 377 MSG/CEIE, 2050 Wyoming Blvd SE Suite A116-b Zip 87117-5270
8. Latitude - Longitude or UTM Coordinates of Facility UTM: UTM-E (m): 363,328 UTM-N (m): 3,873,324
9. Facility Environmental Contact: Ms. Melissa Clark Title: Chief, Environmental Management Ph: (505) 853-1588 Fax: (505) 853-6970
10. Email Address: melissa.clark.8@kirtland.af.mil 11. Type of Business: National Security - U.S. Dept. of Defense
12. Environmental Consultant Name and E-Mail Address (if applicable): Not applicable

General Operation Information (if any further information request does not pertain to your facility, write N/A on the line or in the box)

1. Facility Type (description of your facility operations) The purpose of the soil vapor extraction (SVE) system is to remediate vadose zone contamination originating at Site 58 at Kirtland AFB. Site 58 is a small area on the southern loop of the interior perimeter of Manzano Fence Road, south of Manzano Mountain, in the south central area of KAFB. The SVE system is a part of an ongoing environmental restoration project at Kirtland AFB and is being managed as part of the Kirtland AFB Environmental Restoration Program (ERP).
2. Standard Industrial Classification (SIC 4 digit #) 9711
3. North American Industry Classification System (NAICS Code #) 928110
4. Is facility currently operating in Bernalillo County. No If yes, date of original construction ____/____/____
If no, planned startup is 11/15/2017
5. Is facility permanent No If no, give dates for requested temporary operation – Approximately 2 years
- Is facility process equipment new Yes If no, give actual or estimated manufacture or installation dates in the Process Equipment Table.

7. Is application for a modification, expansion, or reconstruction (altering process, or adding, or replacing process equipment, etc.) to an existing facility which will result in a change in emissions No. If yes, give the manufacture date of modified, added, or replacement equipment in the Process Equipment Table modification date column, or the operation changes to existing process/equipment which cause an emission increase.

8. Is facility operation (circle one) (Continuous) [Intermittent Batch]

9. Estimated % of production Jan-Mar25 Apr-Jun25 Jul-Sep25 Oct-Dec25

10. Current or requested operating times of facility 24 hrs/day 7 days/wk 4 wks/mo 12 mos/yr (intermittently)

11. Business hrs am to am 24-hrs per day

12. Will there be special or seasonal operating times other than shown above No If yes, explain _____

13. Raw materials processed Gasoline

14. Saleable item(s) produced N/A

15. Permitting Action Being Requested

☒ New Permit ☐ Permit Modification

☐ Technical Permit Revision

☐ Administrative Permit Revision

Current Permit #: _____

PROCESS EQUIPMENT TABLE

[illegible]

- Ver. June 2014

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

****TOXIC EMISSIONS**

VOLATILE, HAZARDOUS, & VOLATILE HAZARDOUS AIR POLLUTANT EMISSION TABLE

Product Categories (Coatings, Solvents, Thinners, etc.)	Volatile Organic Compound (VOC), Hazardous Air Pollutant (HAP), or Volatile Hazardous Air Pollutant (VHAP) Primary To The Representative As Purchased Product	Chemical Abstract Service Number (CAS) Of VOC, HAP, Or VHAP From Representative As Purchased Product	VOC, HAP, Or VHAP Concentration Of Representative As Purchased Product (pounds/gallon, or %)	How were Concentrations Determined (CPDS, MSDS, etc.)	Total Product Purchases For Category (lbs/yr)	(-)	Quantity Of Product Recovered & Disposed For Category	(=)	Total Product Usage For Category (lbs/yr)
I. N/A						(-)		(=)	
						(-)		(=)	
						(-)		(=)	
						(-)		(=)	
						(-)		(=)	
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						(-)		(=)	
						(-)		(=)	
						(-)		(=)	
TOTAL >>>>>>>						(-)		(=)	

1. Basis for percent (%) determinations (Certified Product Data Sheets, Material Safety Data Sheets, etc.). Submit, as an attachment, information on one (1) product from each Category listed above which best represents the average of all the products purchased in that Category. Copy this Table if additional space is needed (begin numbering with XI., XII., etc.)

****NOTE: A REGISTRATION IS REQUIRED, AT MINIMUM, FOR ANY AMOUNT OF HAP OR VHAP EMISSION.
A PERMIT MAY BE REQUIRED FOR THESE EMISSIONS, DETERMINED ON A CASE-BY-CASE EVALUATION.**

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

MATERIAL AND FUEL STORAGE TABLE

(Tanks, barrels, silos, stockpiles, etc.) Copy this table if additional space is needed (begin numbering with 6., 7., etc.)

Storage Equipment	Product Stored	Capacity (bbls - tons gal - acres, etc)	Above or Below Ground	Construction (welded, riveted) & Color	Install Date	Loading Rate	Offloading Rate	True Vapor Pressure	Control Equipment	Seal Type	% Eff.
1. N/A						HR. YR.	HR. YR.	Psia			
2.						HR. YR.	HR. YR.	Psia			
3.						HR. YR.	HR. YR.	Psia			
4.						HR. YR.	HR. YR.	Psia			

1. Basis for Loading/Offloading Rate (Manufacturers data, Field Observation/Test, etc.) Submit information for each unit as an attachment

2. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test, AP-42, etc.) Submit information for each unit as an attachment

**Application for Air Pollutant Sources in Bernalillo County
Source Registration (20.11.40 NMAC) and Construction Permits (20.11.41 NMAC)**

STACK AND EMISSION MEASUREMENT TABLE

Equipment from the Process Equipment Table (Page 2) is also listed in this Stack Table, use the same numbered line for the Process Equipment on both Tables to show the association between the Process Equipment and its Stack. Copy this table if additional space is needed (begin numbering with 6., 7., etc.).

Process Equipment	Pollutant (CO,NOx,TSP, Toluene,etc)	Control Equipment	Control Efficiency	Stack Height & Diameter in feet	Stack Temp.	Stack Velocity & Exit Direction	Emission Measurement Equipment Type	Range-Sensitivity-Accuracy-
1. Soil Vapor Extraction (SVE) System	VOC	Eclipse-Thermair Model TA040	99%	13 feet / 14 inches(square)	2000F	25 feet per second / Vertical	Temperature Sensor	N/A
2.								
3.								
4.								

1. Basis for Control Equipment % Efficiency (Manufacturers data, Field Observation/Test,AP-42, etc.) Submit information for each unit as an attachment
Manufacturer's Data

I, the undersigned, a responsible officer of the applicant company, certify that to the best of my knowledge, the information stated on this application, together with associated drawings, specifications, and other data, give a true and complete representation of the existing, modified existing, or planned new stationary source with respect to air pollution sources and control equipment. I also understand that any significant omissions, errors, or misrepresentations in these data will be cause for revocation of part or all of the resulting registration or permit.

Signed this 25th day of July, 2017

Richard W. Gibbs, Colonel, USAF
Print Name

Installation Commander, Kirtland AFB
Print Title

Richard W. Gibbs
Signature

Kirtland AFB
Site PL-567 SVE System

Estimated Emissions

Compound	Maximum Removal Concentration (ppm)	Maximum Hourly Rate (lb/hr)	Maximum Annual Rate (ton/yr)	Controlled Hourly Rate (lb/hr)	Controlled Annual Rate (lb/yr)	Controlled Annual Rate (ton/yr)
VOC	7000	28.48	124.75	0.28	2495.02	1.25

Estimated Gasoline Removal Rate

Vapor flow rate (Q)_{air} 250 ft³/min

Vapor Concentration (C)_{air} 7000 ppm

Emission Calculation Methodology

$$M_{air} = C_{air} \times Q_{air} \times 0.0283 \text{ (m}^3/\text{ft}^3) \times 2.2 \text{ (lb/mg)} \times 60 \text{ (min/hr)} \times 10^{-6}$$

$$M_{air} = 30498 \text{ (mg/m}^3) \times 250 \text{ (ft}^3/\text{min)} \times 0.0283 \text{ (m}^3/\text{ft}^3) \times 2.2 \text{ (lb/mg)} \times 60 \text{ (min/hr)} \times 10^{-6}$$

Where:

(M)_{air} = Mass loading rate (lb/hr)

(Q)_{air} = Flow rate in standard ft³/min

(C)_{air} = Gasoline vapor concentration (mg/m³)

Convert concentration of gasoline from ppm to mg/m³

$$(C)_{air} = (7000 \text{ ppm} / 10^6) \times (1 \text{ mole} / 24.1 \text{ L}) \times (1000 \text{ L/m}^3) \times (1000 \text{ mg/g}) \times \text{MW}_{gas} \text{ (grams/mole)}$$

$$(7000 \text{ ppm} / 10^6) \times (1 \text{ mole} / 24.1 \text{ L}) \times (1000 \text{ L/m}^3) \times (1000 \text{ mg/g}) \times (105 \text{ grams/mole})$$

$$(C)_{air} = 30498$$

Thermox Control System rated with minimum destruction efficiency of
Controlled emission rates = Maximum emission rate x control efficiency

99%

Site 58 PL-567 SVE System
ThermAIR TA040

Estimated Emissions

Compound	(lb/hr)	(ton/yr)
NOx	0.171	0.747
CO	0.076	0.333

flow rate (Q)_{air} 250 ft³/min
NOx Concentration (C)_{air}¹ 85 ppm 110 ppm
CO Concentration (C)_{air}² 49 ppm

Emission Calculation Methodology

NOx

$$M_{air} = C_{air} \times Q_{air} \times 0.0283 \text{ (m}^3/\text{ft}^3) \times 2.2 \text{ (lb/mg)} \times 60 \text{ (min/hr)} \times 10^{-6}$$

$$M_{air} = 141 \text{ (mg/m}^3) \times 250 \text{ (ft}^3/\text{min)} \times 0.0283 \text{ (m}^3/\text{ft}^3) \times 2.2 \text{ (lb/mg)} \times 60 \text{ (min/hr)} \times 10^{-6}$$

CO

$$M_{air} = C_{air} \times Q_{air} \times 0.0283 \text{ (m}^3/\text{ft}^3) \times 2.2 \text{ (lb/mg)} \times 60 \text{ (min/hr)} \times 10^{-6}$$

$$M_{air} = 141 \text{ (mg/m}^3) \times 250 \text{ (ft}^3/\text{min)} \times 0.0283 \text{ (m}^3/\text{ft}^3) \times 2.2 \text{ (lb/mg)} \times 60 \text{ (min/hr)} \times 10^{-6}$$

Where:

(M)_{air} = Mass loading rate (lb/hr)

(Q)_{air} = Flow rate in standard ft³/min

(C)_{air} = NOx concentration (mg/m³) or CO concentration (mg/m³)

Convert concentration of NOx from ppm to mg/m³

$$(C)_{air} = (110 \text{ ppm} / 10^6) \times (1 \text{ mole} / 24.1 \text{ L}) \times (1000 \text{ L/m}^3) \times (1000 \text{ mg/g}) \times \text{MW}_{\text{gas}} \text{ (grams/mole)}$$
$$(110 \text{ ppm} / 10^6) \times (1 \text{ mole} / 24.1 \text{ L}) \times (1000 \text{ L/m}^3) \times (1000 \text{ mg/g}) \times (40.03 \text{ grams/mole})$$

$$(C)_{air} = 183$$

Convert concentration of NOx from ppm to mg/m³

$$(C)_{air} = (49 \text{ ppm} / 10^6) \times (1 \text{ mole} / 24.1 \text{ L}) \times (1000 \text{ L/m}^3) \times (1000 \text{ mg/g}) \times \text{MW}_{\text{gas}} \text{ (grams/mole)}$$
$$(49 \text{ ppm} / 10^6) \times (1 \text{ mole} / 24.1 \text{ L}) \times (1000 \text{ L/m}^3) \times (1000 \text{ mg/g}) \times (28.01 \text{ grams/mole})$$

$$(C)_{air} = 81$$

¹. Due to operating temperatures being higher than 1400 F, NOx emissions were raised approximately 30%.

². Due to operating temperatures being higher than 1400 F CO emissions were estimated to be below 50ppm hence 49 ppm was used for conservative measures.

KIRTLAND AIR FORCE BASE

Authority to Construct Application for a Soil Vapor Extraction (SVE) System Site 58 PL-567, Southern Loop of the Interior Loop of Manzano Mountain Road (Unit Code TBD)

Supplemental Information

Project Description

The Site 58 PL-567 soil vapor extraction(SVE) system will be installed at Site 58; a location that is on the southern loop of the interior perimeter of Manzano Road. The SVE will be used to remediate spill contamination and extract gasoline vapors from the vadose zone at Site 58. The SVE will be operated continuously and has a destruction efficiency of 99%. This SVE will be incorporated into the Title V.

Operational and Maintenance Strategy

20.11.41.13.E(5) New Mexico Administrative Code (NMAC) *Application Contents* states that the application must include an operational and maintenance strategy detailing (a) the steps the applicant will take if a malfunction occurs that may cause emission of a regulated air contaminant to exceed a limit that is included in the permit, (b) the nature of emissions during routine startup or shutdown of the source and the source's air pollution control equipment, (c) the steps the applicant will take to minimize emissions during routine startup or shutdown.

In the event of a malfunction that causes an exceedance of the emission limits, the notification requirements of 20.11.49 NMAC *Excess Emissions* will be followed. The SVE is exercised continuously and the operator will be responsible for shutting down the system if there is a malfunction, such as leaks or failure. Shutdown emissions are not anticipated from this type of equipment. The SVE does have pollution control equipment installed: one thermal oxidizer that operates at 467,000 BTU/hr, with a constant air flow of 250scfm; this oxidizer has a 99% destruction efficiency. Routine preventative maintenance and checks for the SVE will be conducted to ensure proper operation and emission capture. There is combustion involved in the operations of this SVE, but it is a very minor combustion source. Only VOC, CO and NOx are emitted by its operation, while CO and NOx could be considered negligible the emissions estimates were included nonetheless. Emission factors for NOx and CO were obtained from correspondence with the manufacturer and are included along with schematics for the SVE.

All other items required by 20.11.40 NMAC *Authority to Construct* can be found in the permit application forms and the following attachments:

- Attachment A:** Application Review Fee Checklist
- Attachment B:** Permit Application Checklist and Public Notice Documentation
- Attachment C:** Manufacturer's Specifications for Soil Vapor Extraction(SVE) System
- Attachment D:** Soil Vapor Extraction(SVE) Location Map and Aerial Photo
- Attachment E:** Soil Vapor Extraction(SVE) System Flow Diagram
- Attachment F:** Modeling Report

Attachment A
Application Review Fee Checklist



City of Albuquerque

Environmental Health Department Air Quality Program



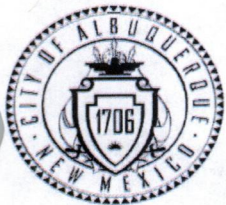
Permit Application Review Fee Instructions

All source registration, authority-to-construct, and operating permit applications for stationary or portable sources shall be charged an application review fee according to the fee schedule in 20.11.2 NMAC. These filing fees are required for both new construction, reconstruction, and permit modifications applications. Qualified small businesses as defined in 20.11.2 NMAC may be eligible to pay one-half of the application review fees and 100% of all applicable federal program review fees.

Please fill out the permit application review fee checklist and submit with a check or money order payable to the "City of Albuquerque Fund 242" and either:

1. be delivered in person to the Albuquerque Environmental Health Department, 3rd floor, Suite 3023 or Suite 3027, Albuquerque-Bernalillo County Government Center, south building, One Civic Plaza NW, Albuquerque, NM or,
2. mailed to Attn: Air Quality Program, Albuquerque Environmental Health Department, P.O. Box 1293, Albuquerque, NM 87103.

The department will provide a receipt of payment to the applicant. The person delivering or filing a submittal shall attach a copy of the receipt of payment to the submittal as proof of payment. Application review fees shall not be refunded without the written approval of the manager. If a refund is requested, a reasonable professional service fee to cover the costs of staff time involved in processing such requests shall be assessed. Please refer to 20.11.2 NMAC (effective January 10, 2011) for more detail concerning the "Fees" regulation as this checklist does not relieve the applicant from any applicable requirement of the regulation.



City of Albuquerque

Environmental Health Department

Air Quality Program

Permit Application Review Fee Checklist



Please completely fill out the information in each section. Incompleteness of this checklist may result in the Albuquerque Environmental Health Department not accepting the application review fees. If you should have any questions concerning this checklist, please call 768-1972.

I. COMPANY INFORMATION:

Company Name	U.S. Air Force – Kirtland Air Force Base (KAFB)		
Company Address	2050 Wyoming Blvd. SE, Suite A-116b, Kirtland AFB, NM 87117		
Facility Name	Soil Vapor Extraction(SVE) System PL-567 Site 58		
Facility Address	Building 20180, 7801 Gibson Blvd, Kirtland AFB, NM 87117		
Contact Person	Andria Cuevas, Air Program Manager		
Contact Person Phone Number	(505) 846-2522, andria.cuevas.1@us.af.mil		
Are these application review fees for an existing permitted source located within the City of Albuquerque or Bernalillo County?	Yes	<u>No</u>	
If yes, what is the permit number associated with this modification?	Permit #		
Is this application review fee for a Qualified Small Business as defined in 20.11.2 NMAC? (See Definition of Qualified Small Business on Page 4)	Yes	<u>No</u>	

II. STATIONARY SOURCE APPLICATION REVIEW FEES:

If the application is for a new stationary source facility, please check all that apply. If this application is for a modification to an existing permit please see Section III.

Check All That Apply	Stationary Sources	Review Fee	Program Element
Stationary Source Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Source Registration required by 20.11.40 NMAC	\$ 549.00	2401
	A Stationary Source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	\$ 1,097.00	2301
	Not Applicable	See Sections Below	
Stationary Source Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
X	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	\$ 823.00	2302
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	\$ 1,646.00	2303
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	\$ 3,291.00	2304
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	\$ 4,937.00	2305
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	\$ 6,582.00	2306
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	\$8,228.00	2307
	Not Applicable	See Section Above	
Federal Program Review Fees (In addition to the Stationary Source Application Review Fees above)			
	40 CFR 60 - "New Source Performance Standards" (NSPS)	\$ 1,097.00	2308
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	\$ 1,097.00	2309
	40 CFR 63 - (NESHAPs) Promulgated Standards	\$ 1,097.00	2310
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	\$ 10,971.00	2311
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	\$ 5,485.00	2312
	20.11.60 NMAC, Non-Attainment Area Permit	\$ 5,485.00	2313
X	Not Applicable	Not Applicable	

III. MODIFICATION TO EXISTING PERMIT APPLICATION REVIEW FEES:

If the permit application is for a modification to an existing permit, please check all that apply. If this application is for a new stationary source facility, please see Section II.

Check All That Apply	Modifications	Review Fee	Program Element
Modification Application Review Fees (Not Based on Proposed Allowable Emission Rate)			
	Proposed modification to an existing stationary source that requires a permit pursuant to 20.11.41 NMAC or other board regulations and are not subject to the below proposed allowable emission rates	\$ 1,097.00	2321
X	Not Applicable	See Sections Below	
Modification Application Review Fees (Based on the Proposed Allowable Emission Rate for the single highest fee pollutant)			
	Proposed Allowable Emission Rate Equal to or greater than 1 tpy and less than 5 tpy	\$ 823.00	2322
	Proposed Allowable Emission Rate Equal to or greater than 5 tpy and less than 25 tpy	\$ 1,646.00	2323
	Proposed Allowable Emission Rate Equal to or greater than 25 tpy and less than 50 tpy	\$ 3,291.00	2324
	Proposed Allowable Emission Rate Equal to or greater than 50 tpy and less than 75 tpy	\$ 4,937.00	2325
	Proposed Allowable Emission Rate Equal to or greater than 75 tpy and less than 100 tpy	\$ 6,582.00	2326
	Proposed Allowable Emission Rate Equal to or greater than 100 tpy	\$ 8,228.00	2327
X	Not Applicable	See Section Above	
Major Modifications Review Fees (In addition to the Modification Application Review Fees above)			
	20.11.60 NMAC, Permitting in Non-Attainment Areas	\$ 5,485.00	2333
	20.11.61 NMAC, Prevention of Significant Deterioration	\$ 5,485.00	2334
X	Not Applicable	Not Applicable	
Federal Program Review Fees (This section applies only if a Federal Program Review is triggered by the proposed modification) (These fees are in addition to the Modification and Major Modification Application Review Fees above)			
	40 CFR 60 - "New Source Performance Standards" (NSPS)	\$ 1,097.00	2328
	40 CFR 61 - "Emission Standards for Hazardous Air Pollutants (NESHAPs)	\$ 1,097.00	2329
	40 CFR 63 - (NESHAPs) Promulgated Standards	\$ 1,097.00	2330
	40 CFR 63 - (NESHAPs) Case-by-Case MACT Review	\$ 10,971.00	2331
	20.11.61 NMAC, Prevention of Significant Deterioration (PSD) Permit	\$ 5,485.00	2332
	20.11.60 NMAC, Non-Attainment Area Permit	\$ 5,485.00	2333
X	Not Applicable	Not Applicable	

IV. ADMINISTRATIVE AND TECHNICAL REVISION APPLICATION REVIEW FEES:

If the permit application is for an administrative or technical revision of an existing permit issued pursuant to 20.11.41 NMAC, please check one that applies.

Check One	Revision Type	Review Fee	Program Element
	Administrative Revisions	\$ 250.00	2340
	Technical Revisions	\$ 500.00	2341
X	Not Applicable	See Sections II, III or V	

V. PORTABLE STATIONARY SOURCE RELOCATION FEES:

If the permit application is for a portable stationary source relocation of an existing permit, please check one that applies.

Check One	Portable Stationary Source Relocation Type	Review Fee	Program Element
	No New Air Dispersion Modeling Required	\$ 500.00	2501
	New Air Dispersion Modeling Required	\$ 750.00	2502
X	Not Applicable	See Sections II, III or V	

VI. Please submit a check or money order in the amount shown for the total application review fee.

Section Totals	Review Fee Amount
Section II Total	\$823
Section III Total	\$
Section IV Total	\$
Section V Total	\$
Total Application Review Fee	\$823

I, the undersigned, a responsible official of the applicant company, certify that to the best of my knowledge, the information stated on this checklist, give a true and complete representation of the permit application review fees which are being submitted. I also understand that an incorrect submittal of permit application reviews may cause an incompleteness determination of the submitted permit application and that the balance of the appropriate permit application review fees shall be paid in full prior to further processing of the application.

Signed this 25th day of July 2017

Richard W. Gibbs, Colonel, USAF
Print Name

Installation Commander, Kirtland AFB
Print Title

Richard W. Gibbs
Signature

Definition of Qualified Small Business as defined in 20.11.2 NMAC:

"Qualified small business" means a business that meets all of the following requirements:

- (1) a business that has 100 or fewer employees;
- (2) a small business concern as defined by the federal Small Business Act;
- (3) a source that emits less than 50 tons per year of any individual regulated air pollutant, or less than 75 tons per year of all regulated air pollutants combined; and
- (4) a source that is not a major source or major stationary source.

Note: Beginning January 1, 2011, and every January 1 thereafter, an increase based on the consumer price index shall be added to the application review fees. The application review fees established in Subsection A through D of 20.11.2.18 NMAC shall be adjusted by an amount equal to the increase in the consumer price index for the immediately-preceding year. Application review fee adjustments equal to or greater than fifty cents (\$0.50) shall be rounded up to the next highest whole dollar. Application review fee adjustments totaling less than fifty cents (\$0.50) shall be rounded down to the next lowest whole dollar. The department shall post the application review fees on the city of Albuquerque environmental health department air quality program website.

90-7162/3222

10-4-17

Pay to the order of City of Albuquerque \$ 823.00
Eight hundred twenty three 00/100 Dollars

Security
Features
Details on
Back.

JPMorgan Chase Bank, N.A.

For

3322716271

25701107760452

MP

Wm. H. R.

Attachment B

**Permit Application Checklist and
Public Notice Documentation**



City of Albuquerque

Environmental Health Department Air Quality Program



Permit Application Checklist

Any person seeking a permit under 20.11.41 NMAC, Authority-to-Construct Permits, shall do so by filing a written application with the Department. Prior to ruling a submitted application complete each application submitted shall contain the required items listed below. **This checklist must be returned with the application.**

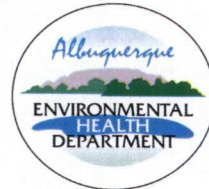
Applications that are ruled incomplete because of missing information will delay any determination or the issuance of the permit. The Department reserves the right to request additional relevant information prior to ruling the application complete in accordance with 20.11.41 NMAC.

All applicants shall:

1. ☒ Fill out and submit the *Pre-permit Application Meeting Request* form
 - a. ☒ Attach a copy to this application
2. ☒ Attend the pre-permit application meeting
 - a. ☒ Attach a copy of the completed *Pre-permit Application Meeting Checklist* to this application
3. ☒ Provide public notice to the appropriate parties
 - a. ☒ Attach a copy of the completed *Notice of Intent to Construct* form to this form
Neighborhood Association(s):
 - i. Kirtland AFB compiled the attached list of nearby associations/coalitions that will be notified through email.
 - ii. Coalition(s): See 3.a.i. above.
 - b. ☒ Attach a copy of the completed *Public Sign Notice Guideline* form
4. Fill out and submit the *Permit Application*. All applications shall:
 - A. ☒ be made on a form provided by the Department. Additional text, tables, calculations or clarifying information may also be attached to the form.
 - B. ☒ at the time of application, include documentary proof that all applicable permit application review fees have been paid as required by 20 NMAC 11.02. Please refer to the attached permit application worksheet.
 - C. ☒ contain the applicant's name, address, and the names and addresses of all other owners or operators of the emission sources.
 - D. ☒ contain the name, address, and phone number of a person to contact regarding questions about the facility.

- E. ☒ indicate the date the application was completed and submitted
- F. ☒ contain the company name, which identifies this particular site.
- G. ☒ contain a written description of the facility and/or modification including all operations affecting air emissions.
- H. ☒ contain the maximum and standard operating schedules for the source after completion of construction or modification in terms of hours per day, days per week, and weeks per year.
- I. ☒ provide sufficient information to describe the quantities and nature of any regulated air contaminant (including any amount of a hazardous air pollutant) that the source will emit during:
 - Normal operation
 - Maximum operation
 - Abnormal emissions from malfunction, start-up and shutdown
- J. ☒ include anticipated operational needs to allow for reasonable operational scenarios to avoid delays from needing additional permitting in the future.
- K. ☒ contain a map, such as a 7.5-minute USGS topographic quadrangle, showing the exact location of the source; and include physical address of the proposed source.
- L. ☒ contain an aerial photograph showing the proposed location of each process equipment unit involved in the proposed construction, modification, relocation, or technical revision of the source except for federal agencies or departments involved in national defense or national security as confirmed and agreed to by the department in writing.
- M. ☒ contain the UTM zone and UTM coordinates.
- N. ☒ include the four digit Standard Industrialized Code (SIC) and the North American Industrial Classification System (NAICS).
- O. ☒ contain the types and **potential emission rate** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.
- P. ☒ contain the types and **controlled** amounts of any regulated air contaminants the new source or modification will emit. Complete appropriate sections of the application; attachments can be used to supplement the application, but not replace it.
- Q. ☒ contain the basis or source for each emission rate (include the manufacturer's specification sheets, AP-42 Section sheets, test data, or other data when used as the source). *Cummins mfr. emissions data for specific Subpart IIII NSPS engine attached.*

- R. ☒ contain all calculations used to estimate potential emission rate and controlled emissions.
- S. ☒ contain the basis for the estimated control efficiencies and sufficient engineering data for verification of the control equipment operation, including if necessary, design drawings, test reports, and factors which affect the normal operation (e.g. limits to normal operation).
- T. ☒ contain fuel data for each existing and/or proposed piece of fuel burning equipment.
#2 ULSD Diesel fuel that is commercially available.
- U. ☒ contain the anticipated maximum production capacity of the entire facility and the requested production capacity after construction and/or modification.
- V. ☒ contain the stack and exhaust gas parameters for all existing and proposed emission stacks.
- W. N/A provide an ambient impact analysis using a atmospheric dispersion model approved by the US Environmental Protection Agency (EPA), and the Department to demonstrate compliance with the ambient air quality standards for the City of Albuquerque and Bernalillo County (See 20.11.01 NMAC). If you are modifying an existing source, the modeling must include the emissions of the entire source to demonstrate the impact the new or modified source(s) will have on existing plant emissions. **(Not applicable for emergency generators)**
- X. ☒ contain a preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown.
- Y. ☒ contain a process flow sheet, including a material balance, of all components of the facility that would be involved in routine operations. Indicate all emission points, including fugitive points.
- Z. ☒ contain a full description, including all calculations and the basis for all control efficiencies presented, of the equipment to be used for air pollution control. This shall include a process flow sheet or, if the Department so requires, layout and assembly drawings, design plans, test reports and factors which affect the normal equipment operation, including control and/or process equipment operating limitations.
- AA. ☒ contain description of the equipment or methods proposed by the applicant to be used for emission measurement. *EPA Certificate of Conformity provided in lieu of stack testing the new emergency generator engine.*
- BB. ☒ be signed under oath or affirmation by a corporate officer, authorized to bind the company into legal agreements, certifying to the best of his or her knowledge the truth of all information submitted.



Pre-Permit Application Meeting Request Form

Air Quality Program- Environmental Health Department

Please complete appropriate boxes and email to aqd@cabq.gov or mail to:

Environmental Health Department
Air Quality Program
P.O. Box 1293
Room 3047
Albuquerque, NM 87103

Name:	Andria Cuevas
Company/Organization:	377 MSG/CEIE, Air Quality Kirtland Air Force Base, New Mexico
Point of Contact: (phone number and email): Preferred form of contact (circle one): Phone E-mail	Phone: 505-846-2522 Email: andria.cuevas.1@us.af.mil
Preferred meeting date/times:	10 April @ 1000, 10 April @ 1400, 11 April @ 0800, 12 April @ 0900, or 12 April @ 1300
Description of Project:	<p>KAFB will be installing a soil vapor extraction (SVE) unit at location site 58 PL-567 (southern loop of the interior perimeter of Manzano Road).</p> <p>The SVE will be used to remediate spill contamination and extract gasoline vapors from the vadose zone at Site 58. The SVE will be operated continuously and has a destruction efficiency of 99%.</p> <p>Because of the remote location and the low emissions related to this SVE, KAFB will be submitting a formal waiver request letter for modeling. KAFB would like to discuss this waiver during this meeting.</p>

City of Albuquerque- Environmental Health Department
Air Quality Program- Permitting Section
Phone: (505) 768-1972 Email: aqd@cabq.gov

From: 377 ABW/PA Administrative Mailbox
To: isabel_f_cabrera_617@msn.com; e_molinadodge@yahoo.com; marianjor@aol.com; GinaForNM@gmail.com; eastgatewaycoalition@gmail.com; jamesw.andrews01@gmail.com; carlpennington1004@yahoo.com; marianjor@aol.com; herbwright@peoplepc.com; richtriple777@msn.com; trammell_david@yahoo.com; kande0@yahoo.com; bakieaikin@comcast.net; cb4innm@gmail.com; nancymbearce@gmail.com; laudonest@gmail.com; david.mcrogan@gmail.com; cbcholka@gmail.com; danspanogle@gmail.com; deewhitfield2000@yahoo.com; mbwafer@comcast.net; a.osborn06@comcast.net; eileentjessen@gmail.com; reynaluz@comcast.net; igeist80@comcast.net; jpate@molzencorbin.com; gmiller@mrwmla.com; talyceice@gmail.com; standridgesr@yahoo.com; info@willsonstudio.com; eebrecht@yahoo.com; fbushman2@aol.com; jrholl@gmail.com; klove726@gmail.com; donalddlove08@comcast.net; ginadennis@relerience.com; fbushman@arraytechinc.com; yalevillage@comcast.net
Cc: 377 MSG/CE Environmental Air Quality
Subject: Notice of Intent – Soil Vapor Extraction System
Date: Wednesday, October 18, 2017 1:36:42 PM
Attachments: [NOI - SVE Site 58 PL-567.pdf](#)

To whom it may concern:

Attached please find information pertaining to an air quality permit application to the Albuquerque Environmental Health Department Air Quality Division for a soil vapor extraction system located at Site 58 PL-567 to remediate spill contamination and extract gasoline vapors.

You are receiving this email in accordance with 20.11.41.13.B NMAC which requires Kirtland AFB to provide public notice by certified mail or electronic mail to the designated representative(s) of the recognized neighborhood associations and recognized coalitions that are with-in one-half mile of the exterior boundaries of the property.

Current Contact Information for Comments and Inquires:

Name: Kirtland AFB Public Affairs Office
Address: 2000 Wyoming Blvd SE
Phone Number: (505) 846-5991
E-Mail Address: 377ABW.PA@us.af.mil

Thank you,
Kirtland Public Affairs
505.846-5991

Notification List: 17 October 2017

Association Name	First Name	Last Name	Email	Alternative Email	Address Line 1	Address Line 2	City	State	Zip	Mobile Phone
Clayton Heights Lomas del Cielo NA	Isabel	Cabrera	isabel_f_cabrera_617@msn.com		1720 Buena Vista SE		Albuquerque NM		87106	5052424494
Clayton Heights Lomas del Cielo NA	Eloisa	Molina-Dodge	e_molinadodge@yahoo.com		1704 Buena Vista SE		Albuquerque NM		87106	5053015051 5052434322
District 6 Coalition of Neighborhood Association:	Marian	Jordan	marianjor@aol.com		816 Arizona SE		Albuquerque NM		87108	5052707815 5052685190
District 6 Coalition of Neighborhood Association:	Gina	Dennis	GinaForNM@gmail.com	ginadennis@relerience.com	1816 Buena Vista Drive NE	#2	Albuquerque NM		87106	5057023082
East Gateway Coalition	Michael	Brasher	eastgatewaycoalition@gmail.com		216 Zena Lona NE		Albuquerque NM		87123	5053822964 5052988312
East Gateway Coalition	James	Andrews	james.andrews01@gmail.com		13121 Nandina Lane SE		Albuquerque NM		87123	5052969700
Elder Homestead NA	Carmen	Pennington	carpennington1004@yahoo.com		1004 San Pedro SE		Albuquerque NM		87108	5052569506
Elder Homestead NA	Marian	Jordan	marianjor@aol.com		816 Arizona SE		Albuquerque NM		87108	5052707815 5052685190
Four Hills Village HOA	Herb	Wright	herbwright@peoplepc.com		712 Stagecoach Road SE		Albuquerque NM		87123	5056152839 5059220976
Four Hills Village HOA	Paul	Feist			1612 Sagebrush Trail SE		Albuquerque NM		87123	5052637059
Juan Tabo Hills NA	Richard	Lujan	richtriple777@msn.com		11819 Blue Ribbon NE		Albuquerque NM		87123	5055737730 5052651711
Juan Tabo Hills NA	Michael David	Trammell	trammell_david@yahoo.com		1620 Challedon Drive SE		Albuquerque NM		87123	5055535141
Kirtland Community Association	Kimberly	Brown	kande0@yahoo.com		PO Box 9731		Albuquerque NM		87119	5052429439
Kirtland Community Association	Elizabeth	Aikin	bakieaikn@comcast.net		1524 Alamo SE		Albuquerque NM		87106	5052886324
La Mesa Community Improvement Association	Charles	Bennett	cb4nmm@gmail.com		600 San Pablo Street NE		Albuquerque NM		87108	5053314517 5052547841
La Mesa Community Improvement Association	Nancy	Beare	nancymbearce@gmail.com		600 San Pablo Street NE		Albuquerque NM		87108	5053310489 5052547841
Mirabella Miravista NA	Laurie	Estrada	lauronest@gmail.com		11231 Kaabab Road SE		Albuquerque NM		87123	5055144340
Mirabella Miravista NA	David	McGrogan	david.mcrogan@gmail.com		344 Via Vista Street SE		Albuquerque NM		87123	9259892210
Parkland Hills NA	Cecilia Brooke	Cholka	cbcholka@gmail.com		4916 Pershing Avenue SE		Albuquerque NM		87108	9157404165
Parkland Hills NA	Daniel	Spanogle	danspanogle@gmail.com		4911 Pershing Avenue SE		Albuquerque NM		87108	5054535999
Siesta Hills NA	Dee	Whitfield	deewhitfield2000@yahoo.com		2811 Ridgcrest Drive SE		Albuquerque NM		87108	4086399970
Siesta Hills NA	Michelle	Wafer	mwafer@comcast.net		1325 Odium SE		Albuquerque NM		87108	5056206337
South Los Altos NA	Allen	Osborn	a.osborn06@comcast.net		245 Espejo NE		Albuquerque NM		87123	5052937152
South Los Altos NA	Eileen	Jessen	eileentjessen@gmail.com		420 General Hodges NE		Albuquerque NM		87123	5052655237
South San Pedro NA	Reynaluz	Juarez	reynaluz@comcast.net		816 San Pedro SE		Albuquerque NM		87108	5057101319 5052621581
South San Pedro NA	Donna	Orozco-Geist	jgeist80@comcast.net		933 San Pedro SE		Albuquerque NM		87108	5052357088
Southeast Heights NA	John	Pate	jpat@molzencorbin.com		1007 Idlewild Lane SE		Albuquerque NM		87108	5052354193 5052525984
Southeast Heights NA	Greg	Miller	gmiller@mrwmia.com		1212 Parkland Circle SE		Albuquerque NM		87108	5052660760
Trumbull Village Association	Alyce	Ice	talvice@gmail.com		6902 4th Street NW	#11	Albuquerque NM		87108	5054005906 5052660760
Trumbull Village Association	David	Strandridge	strandriges@yahoo.com		1501 Shirley Street NE		Albuquerque NM		87108	5053151018
Victory Hills NA	Patricia	Willson	info@willsonstudio.com		505 Dartmouth SE		Albuquerque NM		87106	5052712389
Victory Hills NA	Erin	Engelbrecht	eebrecht@yahoo.com		P.O. Box 40298		Albuquerque NM		87106	5052668944
Willow Wood NA	Frank	Bushman	fushman@aol.com	fbushman@arraytechinc.com	11101 Jewel Cave Road SW		Albuquerque NM		87196	5053508984
Willow Wood NA	Jonathan	Hollinger	jhol12@gmail.com		11700 Isle Royale Road SE		Albuquerque NM		87123	5059915135
Yale Village NA	Kim	Love	klove726@gmail.com	yalevillage@comcast.net	2122 Cornell Drive SE		Albuquerque NM		87106	5052691973
Yale Village NA	Donald	Love	donaldivlove08@comcast.net		2125 Stanford Drive SE		Albuquerque NM		87106	5052423088 5054807175



Notice of Intent to Construct

Under 20.11.41.13B NMAC, the owner/operator is required to *provide public notice by certified mail or electronic mail to the designated representative(s) of the recognized neighborhood associations and recognized coalitions that are with-in one-half mile of the exterior boundaries of the property on which the source is or is proposed to be located* if they propose to construct or establish a new facility or make modifications to an existing facility that is subject to 20.11.41 NMAC – Construction Permits. **A copy of this form must be included with the application.**

Applicant's Name and Address: Kirtland Air Force Base

Owner / Operator's Name and Address: Col. Richard W. Gibbs, 2000 Wyoming Blvd SE, Kirtland AFB, NM 87117

Actual or Estimated Date the Application will be submitted to the Department: 1 October 2017

Exact Location of the Source or Proposed Source: Kirtland AFB, Southern Loop of the interior perimeter of Manzano Fence Road.

Description of the Source: One new Soil Vapor Extraction (SVE) System is proposed to be installed at Site 58, at the Southern Loop of the interior perimeter of Manzano Fence Road.

Nature of the Business: National Security

Process or Change for which the permit is requested: Request for a new construction permit under 20.11.41.2.A(1) New Mexico Administrative Code (NMAC) for one Soil Vapor Extraction (SVE) System.

Preliminary Estimate of the Maximum Quantities of each regulated air contaminant the source will emit:

Net Changes In Emissions

Initial Construction Permit

(Only for permit Modifications or Technical Revisions)

	Pounds Per Hour (lbs/hr)	Tons Per Year (tpy)		lbs/hr	tpy	Estimated Total TPY
CO	0.076	0.333	CO	+/-	+/-	
NOx	0.171	0.747	NOx	+/-	+/-	
SO2	0	0	SO2	+/-	+/-	
VOC	0.28	1.25	VOC	+/-	+/-	
TSP	0	0	TSP	+/-	+/-	
PM10	0	0	PM10	+/-	+/-	
PM2.5	0	0	PM2.5	+/-	+/-	
VHAP	-	-	VHAP	+/-	+/-	

Maximum Operating Schedule: 24 hours/day, 365 days/year

Normal Operating Schedule: 24 hours/day, 365 days/year

Ver.11/13

City of Albuquerque- Environmental Health Department
Air Quality Program- Permitting Section
Phone: (505) 768-1972 Email: aqd@cabq.gov

Current Contact Information for Comments and Inquires:

Name: Kirtland AFB Public Affairs Office

Address: 2000 Wyoming Blvd SE

Phone Number: (505) 846-5991

E-Mail Address: 377ABW.PA@us.af.mil

If you have any comments about the construction or operation of the above facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to the address below:

Environmental Health Manager

Stationary Source Permitting

Albuquerque Environmental Health Department

Air Quality Program

PO Box 1293

Albuquerque, New Mexico 87103

(505) 768-1972

Other comments and questions may be submitted verbally.

Please refer to the company name and facility name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice. Please include a legible mailing address with your comments. Once the Department has performed a preliminary review of the application and its air quality impacts, if required, the Department's notice will be published in the legal section of the Albuquerque Journal and mailed to neighborhood associations and neighborhood coalitions near the facility location or near the facility proposed location.



PROPOSED AIR QUALITY CONSTRUCTION PERMIT

Applicant's Name: KATLAND AFB Address: 4500 WINGWALK BLVD, KATLAND AFB, TX 77757
 Owner or Operator's Name: LEE, RONALD W. (owner)
 Owner or Operator's Address: 4500 WINGWALK BLVD, KATLAND AFB, TX 77757
 Agency or Agency Date The Application will be Submitted by the Department: 1 Oct 2017

3. Brief Location of the Nature of Proposed Action: GROUP OF INTERIOR REPAIRS OF
MANUFACTURING BUILDING

4. Description of the Nature of the Proposed Action: NEW CONSTRUCTION AND
REPAIRS TO THE SIDE OF
MANUFACTURING BUILDING
MANUFACTURING SECURITY

Project or Cluster (in which the permit is being requested): REPAIRS NEW CONSTRUCTION AND
REPAIRS TO THE SIDE OF MANUFACTURING BUILDING
 Preliminary Estimate of the Maximum Quantity of each regulated air contaminant the source will emit:

Title Construction Permit		Title Changes in Emissions	
Contaminant	Quantity	Contaminant	Quantity
CO	0.000	CO	0.000
NO _x	0.000	NO _x	0.000
PM ₁₀	0.000	PM ₁₀	0.000
PM _{2.5}	0.000	PM _{2.5}	0.000
VOC	0.000	VOC	0.000
SO ₂	0.000	SO ₂	0.000
NO ₂	0.000	NO ₂	0.000
CH ₄	0.000	CH ₄	0.000
HAPs	0.000	HAPs	0.000

5. Estimated Operating Schedule: 14 NOV 2017, 10:00 AM - 12:00 PM
 Annual Operating Schedule: 14 NOV 2017, 10:00 AM - 12:00 PM

6. Contact Person for Construction and Emissions: LEE, RONALD W. (owner)
 Address: 4500 WINGWALK BLVD, KATLAND AFB, TX 77757
 Phone Number: 281-862-2511
 E-Mail Address: LEE, RONALD W. (owner)

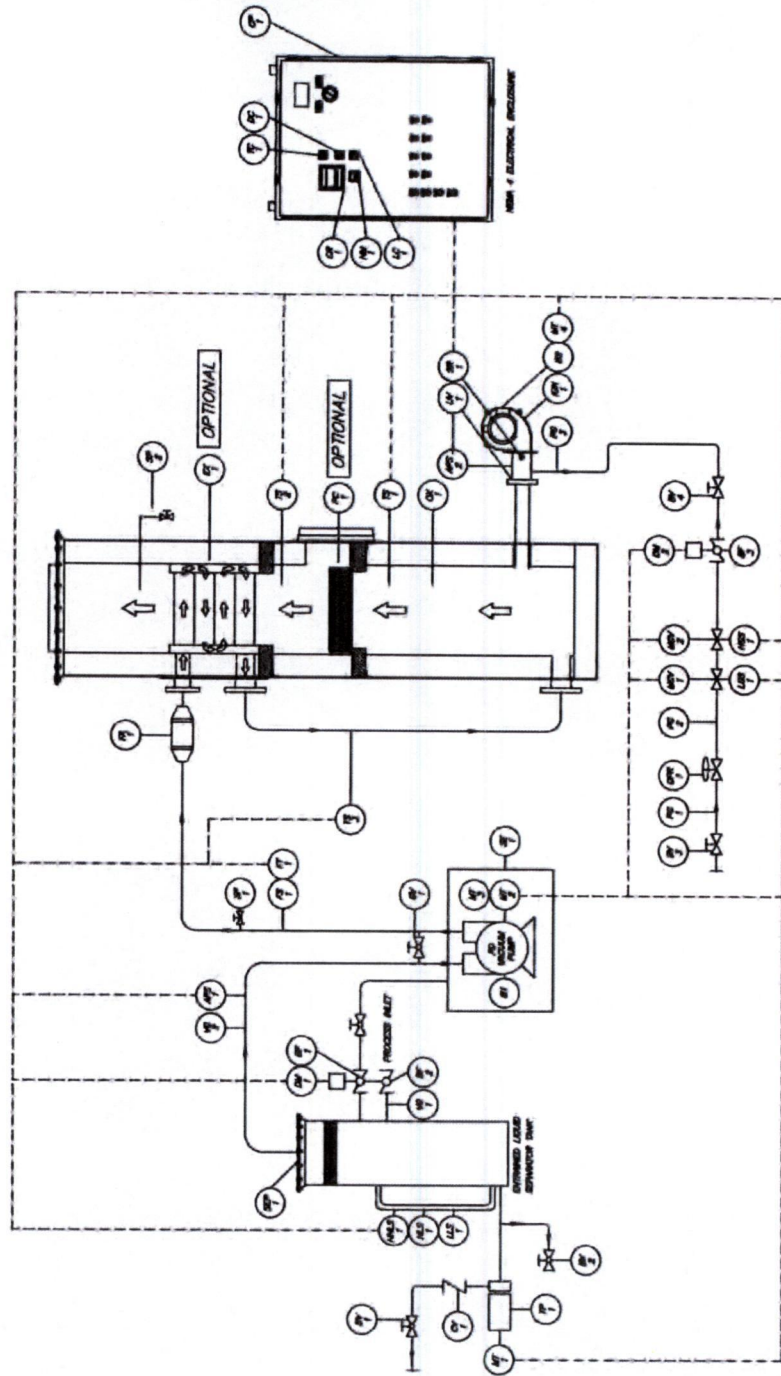
7. Other Information: REPAIRS NEW CONSTRUCTION AND
REPAIRS TO THE SIDE OF MANUFACTURING BUILDING

THIS PERMIT SHALL BE POSTED ON THE CONSTRUCTION SITE FOR THE PERMIT DURATION.

Attachment C

Manufacturer's Specifications for Soil Vapor Extraction (SVE) Unit

APS-1 AIR PRESSURE SWITCH - PROCESS
 APS-2 AIR PRESSURE SWITCH - COMBUSTION
 B-1 BLOWER - POSITIVE DISPLACEMENT (250CFM)
 B-2 BLOWER - COMBUSTION AIR
 BF-1 BUTTERFLY VALVE - DILUTION (3")
 BF-2 BUTTERFLY VALVE - PROCESS (3")
 BF-3 BUTTERFLY VALVE - COMBUSTION AIR
 BV-1 BALL VALVE - AUTO DRAIN (1")
 BV-2 BALL VALVE - MANUAL DRAIN (1")
 BV-3 BALL VALVE - MAIN GAS (1")
 BV-4 BALL VALVE - MAIN GAS (1")
 CP-1 CONTROL PANEL - NEMA 4 (48 x 36)
 CR-1 CHART RECORDER - 4 CHANNEL
 CV-1 CHECK VALVE - AUTO DRAIN (1")
 DC-1 DILUTION CONTROLLER
 DM-1 DRIVE MOTOR - DILUTION/ISOLATION
 DM-2 DRIVE MOTOR - COMBUSTION AIR
 EX-1 EXCHANGER - 55% EFFICIENCY (OPTIONAL)
 FA-1 FLAME ARRESTOR (3")
 FS-1 FLOW SENSOR - PITOT TUBE (3")
 FT-1 FLOW TRANSMITTER - DIFFERENTIAL
 GV-1 GAS PRESSURE REGULATOR
 HG-1 GATE VALVE - BLOWER BYPASS (2")
 HHS-1 HIGH GAS PRESSURE SWITCH
 HLLS-1 HIGH HIGH LIQUID LEVEL SWITCH
 HLM-1 HIGH LIQUID LEVEL SWITCH
 HM-1 HOUR METER
 IG-1 IGNITION TRANSFORMER
 LC-1 LIMIT CONTROLLER - HIGH TEMPERATURE
 LGS-1 LOW GAS PRESSURE SWITCH
 LLS-1 LOW LIQUID LEVEL SWITCH
 MG-1 MAIN GAS VALVE (1")
 MG-2 MAIN GAS VALVE (1")
 MT-1 MOTOR - LIQUID TRANSFER PUMP (1HP)
 MT-2 MOTOR - PROCESS BLOWER (10HP)
 MT-3 MOTOR - COOLING FAN
 MT-4 MOTOR - COMBUSTION AIR BLOWER (1/4HP)
 OX-1 OXIDIZER - THERMAL CATALYTIC (250 CFM)
 PC-1 PLATINUM CATALYST CELL (18")
 PG-1 PRESSURE GAUGE (0-15 PSI)
 PG-2 PRESSURE GAUGE (0-30" WC)
 PG-3 PRESSURE GAUGE (0-30" WC)
 SEP-1 SEPARATOR - LIQUID (100 GALLON)
 SE-1 SOUND ENCLOSURE - PROCESS BLOWER
 SP-1 SAMPLE PORT - INFLUENT
 SP-2 SAMPLE PORT - EFFLUENT
 SR-1 SPARK ROD
 TC-1 TEMPERATURE CONTROLLER
 TP-1 TRANSFER PUMP - 50 GPM @ 52' HEAD LOSS
 TS-1 TEMPERATURE SENSOR - CATALYST INLET
 TS-2 TEMPERATURE SENSOR - CATALYST OUTLET
 TS-3 TEMPERATURE SENSOR - HEAT EX. OUTLET
 UV-1 UV SCANNER
 VG-1 VACUUM GAUGE - PROCESS INLET (0-30 hg)
 VG-2 VACUUM GAUGE - BLOWER INLET (0-30hg)



MAKO INDUSTRIES

THERMAL CATALYTIC OXIDIZER

PROCESS INSTRUMENTATION DRAWING

DATE 1/11/78

BY

DESIGN/AT/MD

250 TCAT

Mako Industries

TECHNICAL SPECIFICATIONS 250 SCFM THERMAL / CATALYTIC OXIDIZER

Oxidizer Specifications

Chamber Length	10 feet
Chamber Retention Time	10 feet / second
Stack Exit Velocity	25 feet / second
Throat Velocity	40 feet / second
Stack Discharge Height / Size	13 feet / 14" Square
Overall Dimensions	7 feet wide / 12 feet long
Chamber Dimensions	30" outside / 20" inside
Chamber Internal Lining	Ceramic Fiber
Chamber Mixing Throat	Diameter 15" I.D.
Destruction Efficiency	99% +
Operating Temperature "Thermal"	1400° to 2000°
Operating Temperature "Catalytic"	600° to 1200°
Maximum VOC Influent "Thermal"	12,000 ppmv
Normal VOC Effluent "Thermal"	< 50 ppmv

Blower Specifications

Blower Type	Positive Displacement
Volumetric Flow	250 SCFM maximum
Vacuum	Up to 12" Mercury or 160" w.c.
Motor Type	10 HP / 230 Volt / 3 Phase
RPM	1800

Catalyst Specifications

Catalyst Type	Platinum Coated Metal Monolithic
Catalyst Size	18" Square x 3.5" Height
Catalyst Volume	.66 ft ³
Destruction Efficiency	99% +
Maximum VOC Influent	3500 ppmv
Normal VOC Effluent	<50 ppmv

Utility Specifications

Supplemental Fuel	Natural Gas or Propane
Fuel Pressure	2 to 5 PSI.
Fuel Volume	400 scfh Maximum
Electrical Requirements	230 Volt / 3 Phase / 100 Amp



Data 114-3

12/02

ThermAir Burners

Model TA040

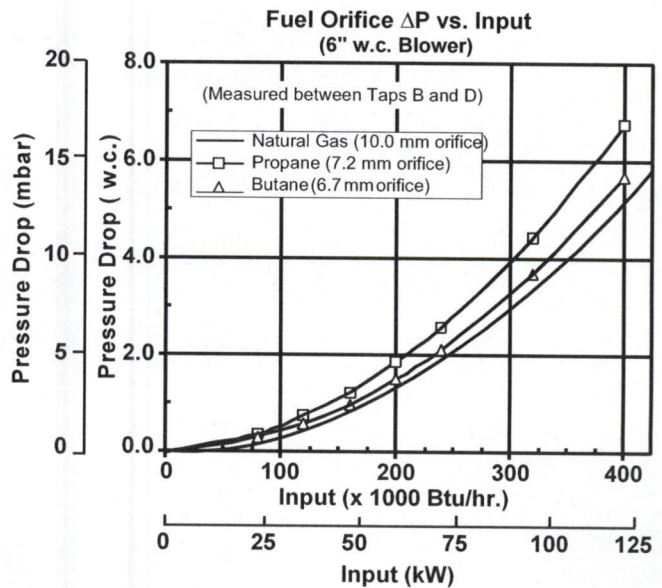
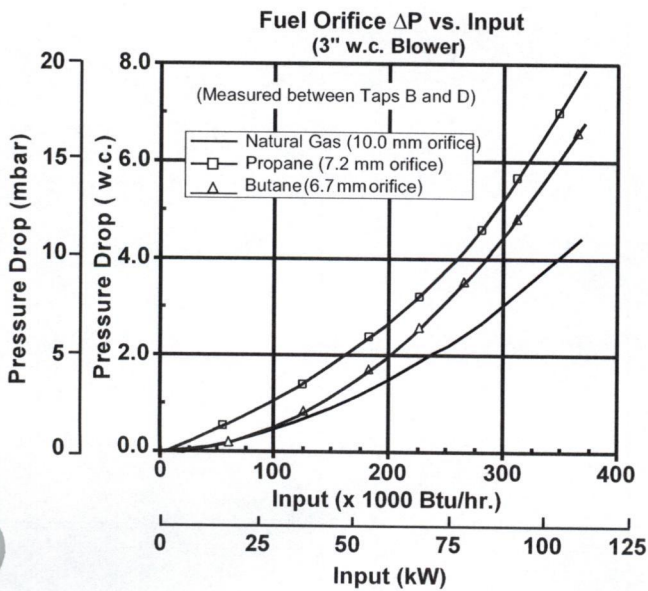
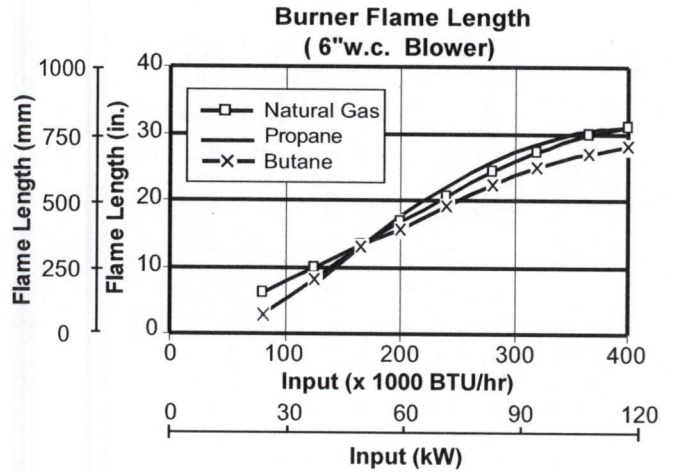
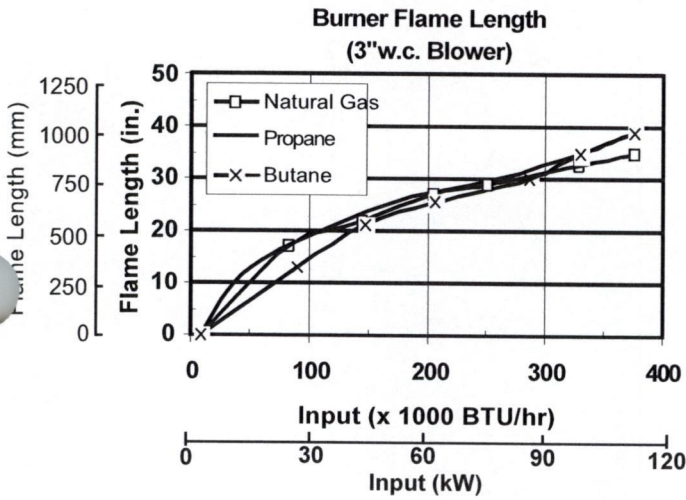
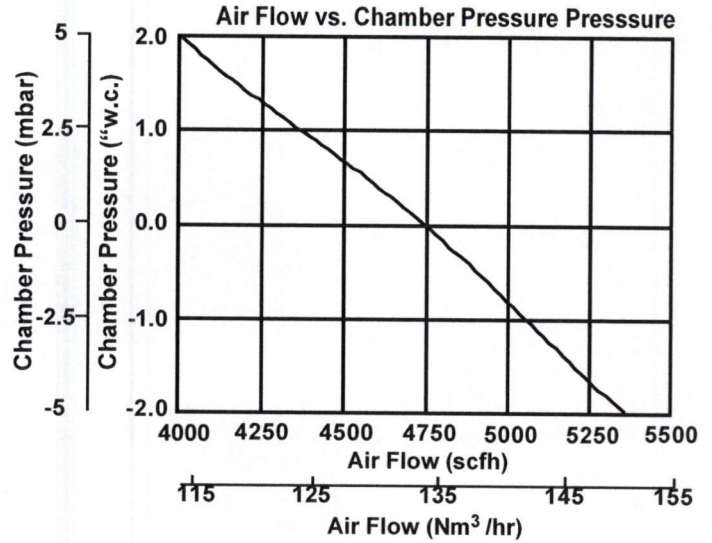
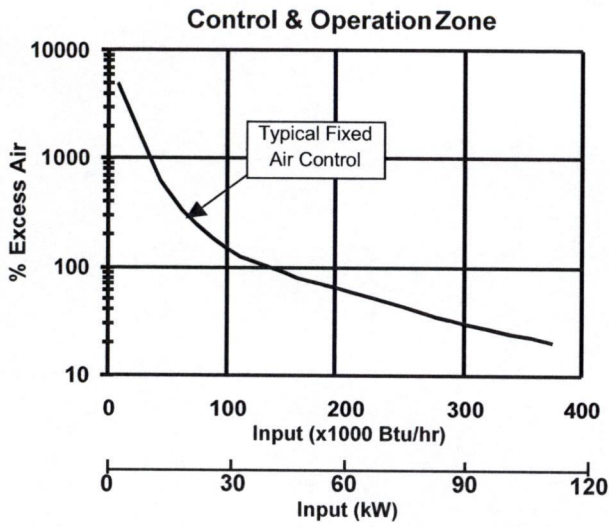
Version 1.10

Main Specification – TA040

PARAMETER	BLOWER SIZE									
Maximum input (Btu/hr)	Frequency	3"w.c. Packaged				6"w.c. Packaged				
		Capacity at Chamber Pressure				Capacity at Chamber Pressure				
	60 Hz Packaged Blower	BTU/hr	"w.c.	kW	mbar	BTU/hr	"w.c.	kW	mbar	
		403,000	-1.0	118	-2,5	467,000	-1.0	137	-2,5	
		375,000	0.0	110	0,0	400,000	0.0	117	0,0	
	50 Hz Packaged Blower	345,000	1.0	101	2,5	370,000	1.0	108	2,5	
		Not Available				434,000	-1.0	127	-2,5	
						406,000	0.0	119	0,0	
		376,000	1.0	110	2,5					
Minimum input		BTU/hr kW				BTU/hr kW				
Natural gas, Propane/Butane		8,000 2,3				13,000 3,8				
Main Gas Inlet Pressure		" w.c. mbar				" w.c. mbar				
• Fuel pressure at gas inlet (Tap "B")										
Natural gas		4.1 14,7				5.8 16				
Propane		7.7 19,2				6.7 17				
Butane		6.5 16,2				6.7 17				
High Fire Flame Length		inches mm				inches mm				
• Measured from the outlet end of combustor										
Natural gas		35 889				31 787				
Propane		39 991				31 787				
Butane		39 991				28 711				
Maximum Chamber Temperature		°F °C								
Alloy Tube		1500 820								
SiC Tube		1900 1038								
Flame Detection		Flame rod or UV scanner								
Fuel		Natural gas, Propane, or Butane.								
		For any other mixed gas, contact Eclipse Combustion for orifice sizing								

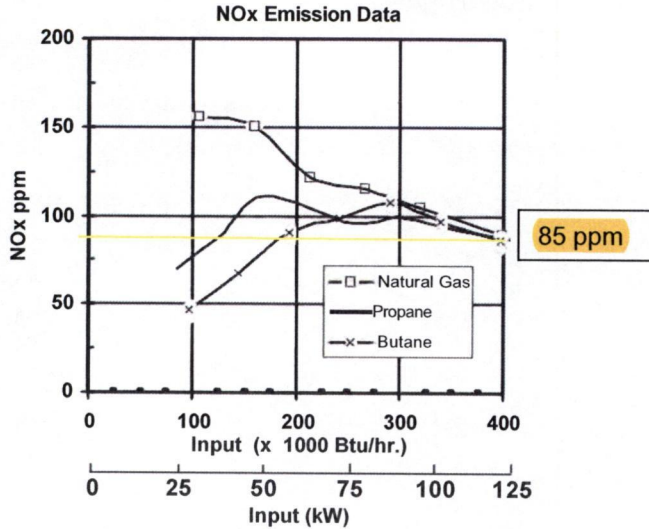
- All information is based on laboratory testing in neutral (0.0"w.c.) chamber with standard combustor design. Different chamber conditions and/or combustor design will affect the data.
- Maximum inputs are given for the standard combustion air blower without an air filter.
- All inputs based upon gross calorific values and standard conditions: 1 atmosphere, 70° F (21°C).
- Blower motor service factors greater than 1.0 may be required when firing into negative chamber pressure applications. For specific application questions, contact your Eclipse Combustion representative.
- Eclipse reserves the right to change the construction and/or configuration of our products at any time without being obliged to adjust earlier supplies accordingly.

Performance Graphs ThermAir TA040



Performance Graphs (Continued)

ThermAir TA040



Notes on emission data

NOx emission data is given for:

- Ambient combustion air ~70° F (20° C)
- Minimal process air velocity
- ppm volume dry at 3% O₂
- Neutral chamber pressure

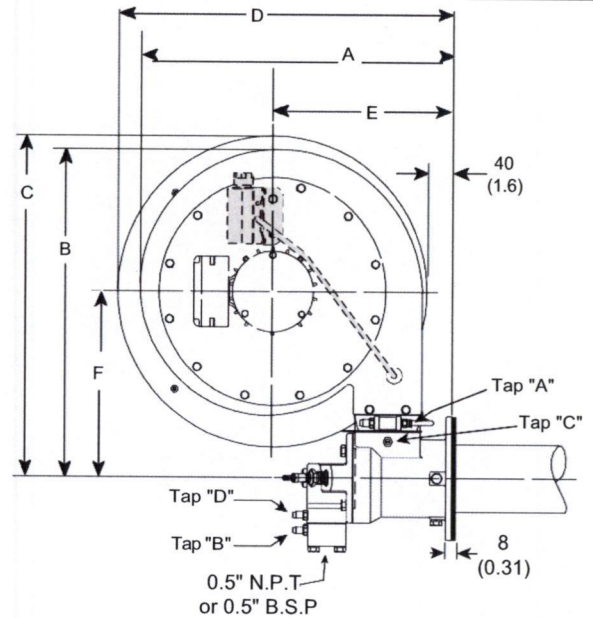
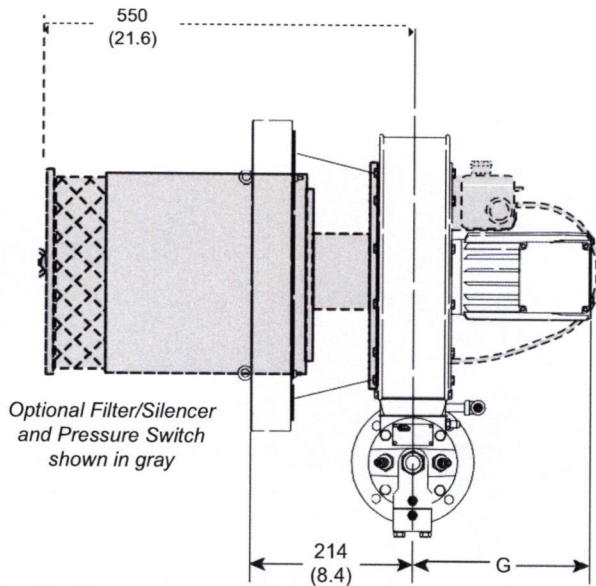
Emissions are influenced by:

- Chamber conditions
- Fuel type
- Firing rate
- Combustion air temperature

CO emission is largely influenced by chamber conditions. Contact your local Eclipse Combustion representative for an estimate of CO emission on your application.

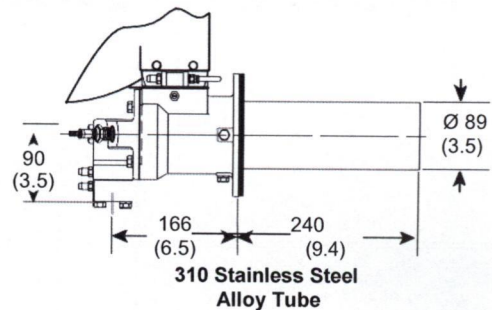
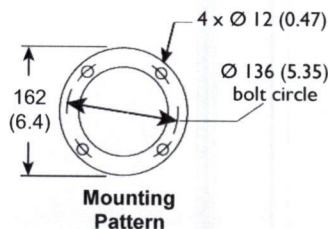
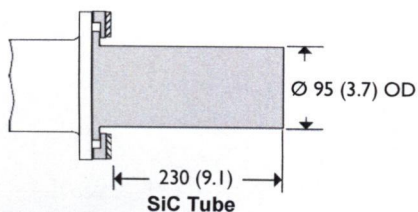
Dimensions-TA040

mm (in)

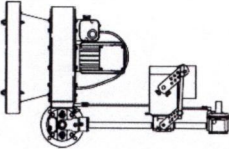
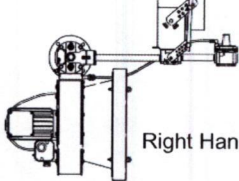
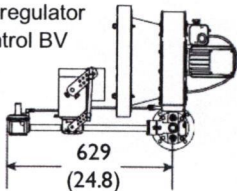
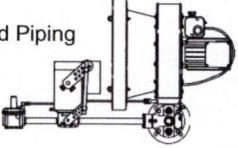
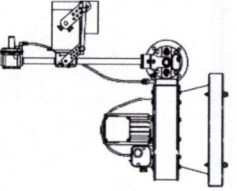
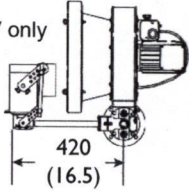
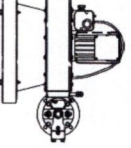
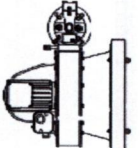
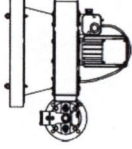


Port Connection		
Sparkplug	14mm	
Flamerod or scanner	0.5" N.P.T.	
Peepsight	0.75" N.P.T.	
Weights		
	lb	kg
Burner, w/ blower	65	29
Burner, less blower	24	11
Filter/Silencer	21	10

Blower 6" w.c.													
Hz	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
50	469	18.5	498	19.6	N/A	N/A	N/A	N/A	265	10.4	283	11.1	285
60	411	16.2	429	16.9	447	16.9	440	17.3	237	9.3	243	9.6	234
Blower 3" w.c.													
60	329	12.9	360	14.2	N/A	N/A	N/A	N/A	198	7.8	209	8.2	179



Piping

Orientation		Piping Options
Upright	Inverted	
<p>Right Hand Piping</p> 	<p>Right Hand Piping</p> 	<p>With ratio regulator and control BV</p>  <p>629 (24.8)</p>
<p>Left Hand Piping</p> 	<p>Left Hand Piping</p> 	<p>With control BV only</p>  <p>420 (16.5)</p>
<p>No Piping</p> 	<p>No Piping</p> 	<p>Less ratio regulator and control BV</p> 

ECLIPSE
Industrial Thermal Solutions
Eclipse Combustion
www.eclipseintl.com

Hello Jeff,

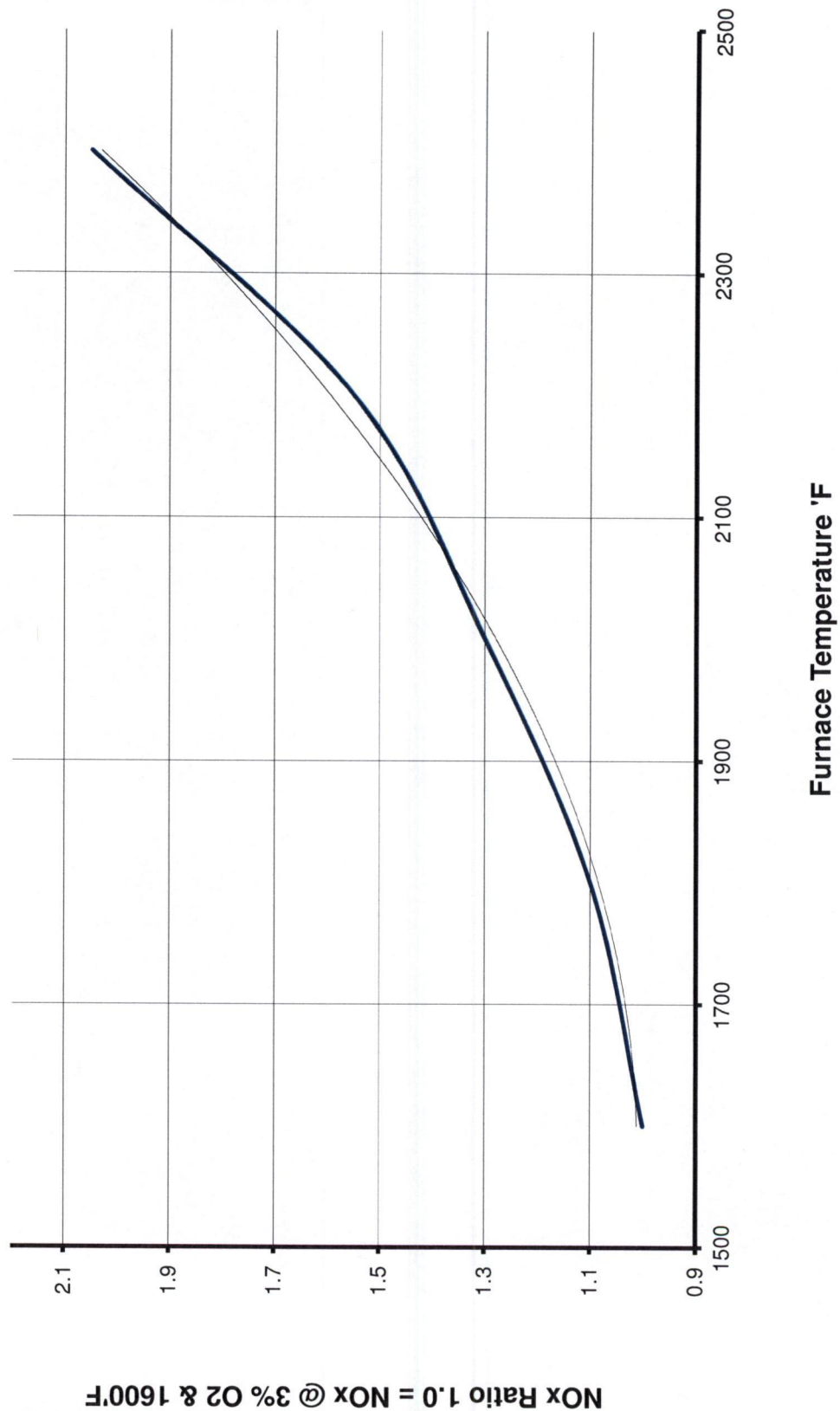
Thanks for your inquiry today concerning the ThermAir TA0040 burner emissions in the Soil Remediation application. For an application above 1200 deg F, any CO that is generated will be incinerated much like the other process contaminants that you are pushing into the chamber, so I believe you would be safe with an estimate of < 50 PPM CO at 3% O2 dry. However, with an application running at temperatures above 1600 deg F, the typical emissions of 85 PPM NOx @ 3% O2 dry would have to be estimated higher due to the formulation of Thermal NOx. You will see on the attached chart that as the temperature rises to the 2000 deg F level, you would have to estimate your NOx emissions at approximately 30% higher due to Thermal NOx generation, so I believe you would be safe with an estimate of approximately 110 PPM NOx at 3% O2 dry. Please let me know of any further questions.

Best Regards,

Matt Long
Engineer App/Technical Sales II, Americas
Honeywell | Honeywell Process Solutions (HPS)
Honeywell Thermal Solutions (HTS)

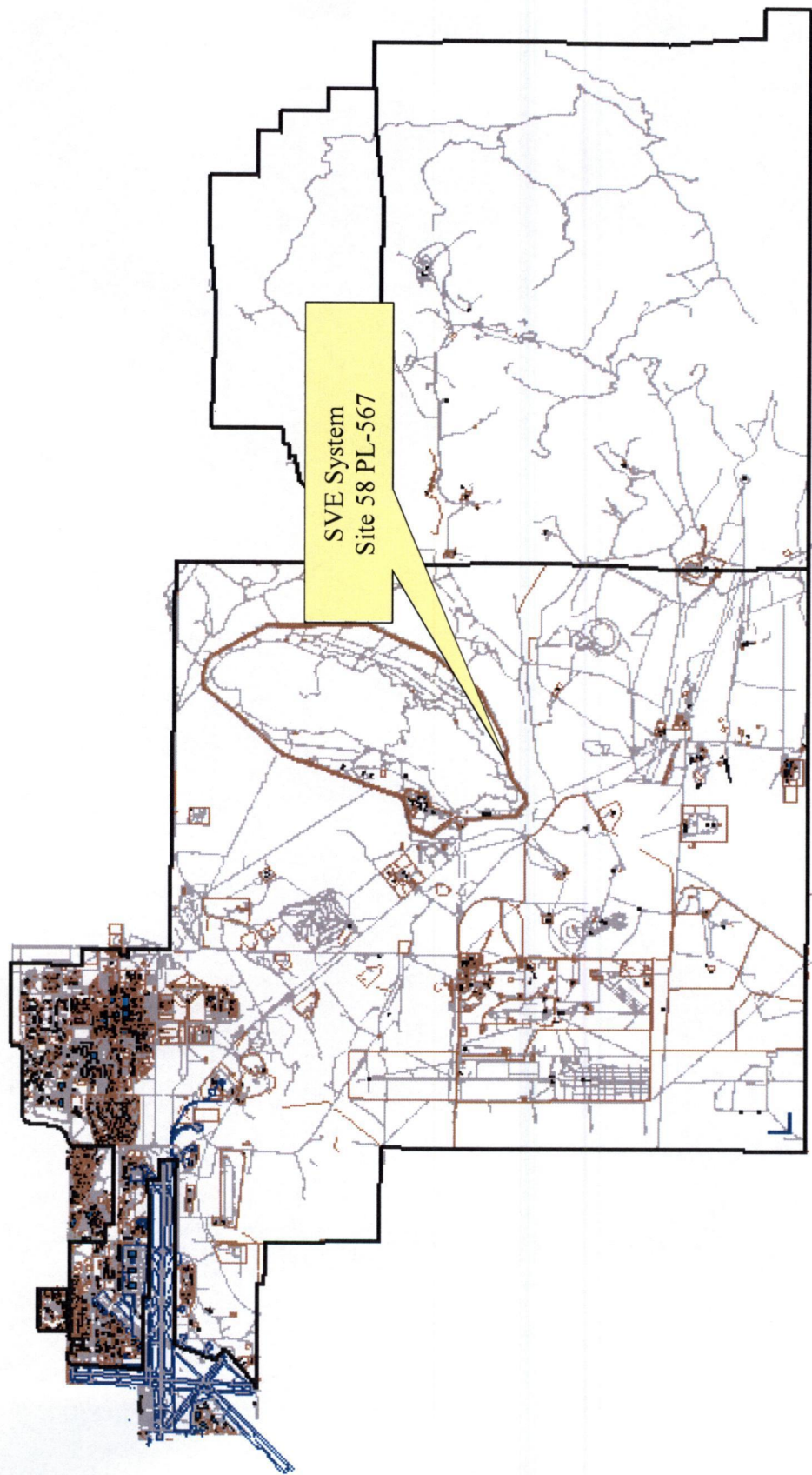
1665 Elmwood Road
Rockford, IL, USA 61103
Phone: +1.815-637-7340
Email: matthew.long2@honeywell.com

Effect of Furnace Temperature on NOx (Natural Gas)

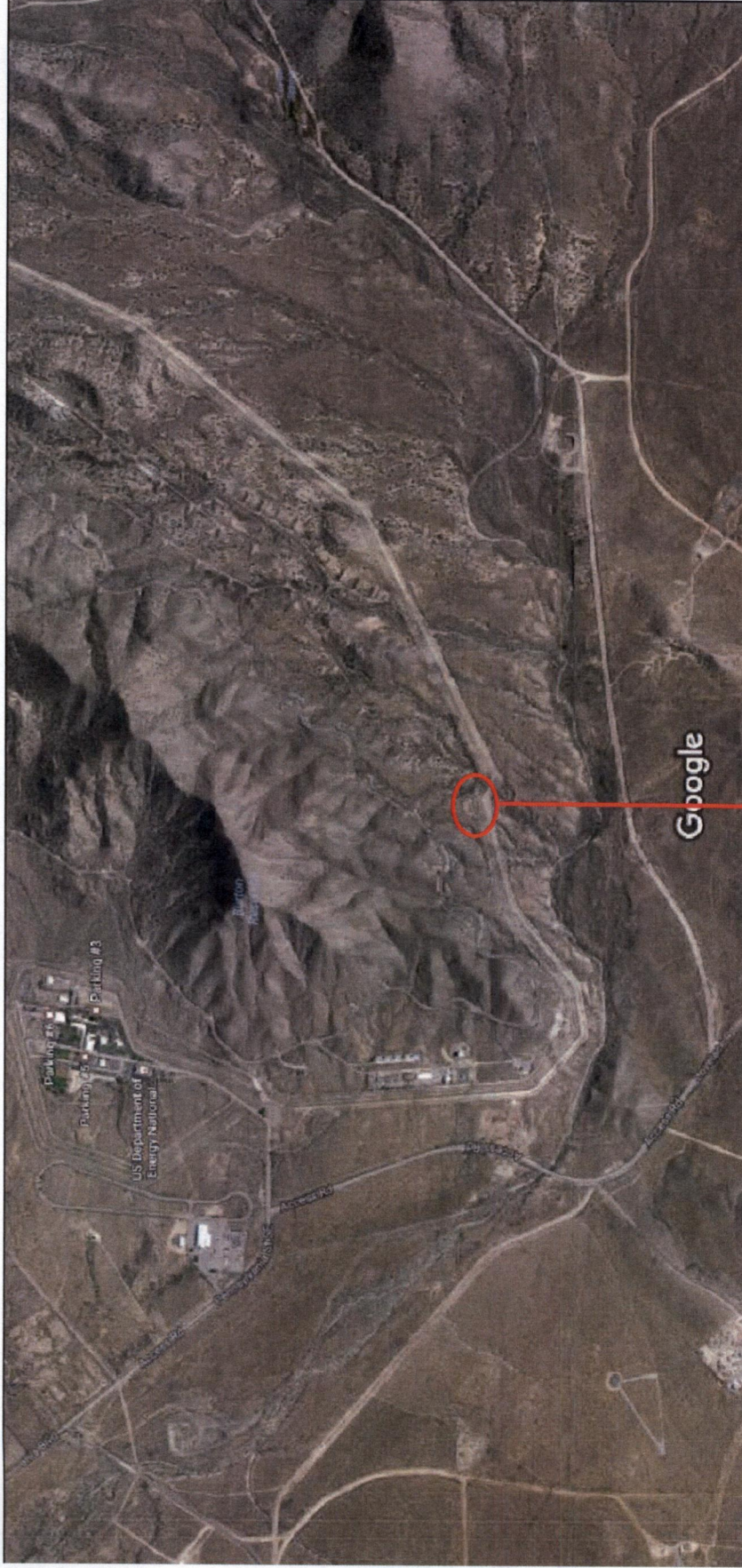


Attachment D

**SVE Location Map and
Aerial Photo**



**SVE Site 58 PL-567 Location Map Kirtland
Air Force Base, Albuquerque, New Mexico**

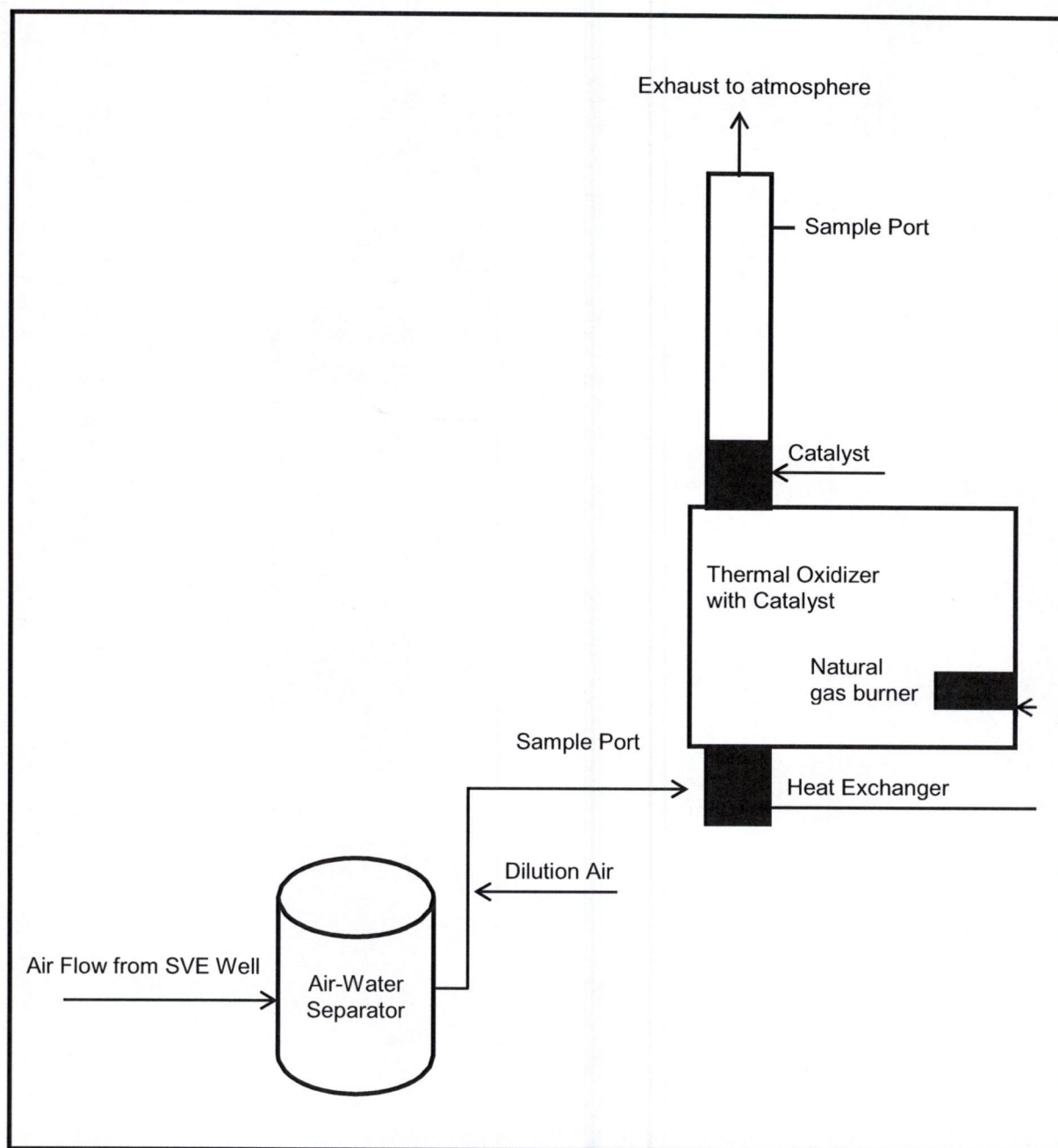


Imagery ©2016 Google, Map data ©2016 Google 1000 ft

Location of Soil Vapor Extraction(SVE) System Site 58 PL-567

Attachment E
Process Flow Diagram

Process Flow Diagram for SVE System Site 58 PL-567



Attachment F
Modeling Report